

AMENDMENTS TO THE CLAIMS

1.-25. Cancelled.

26. (New) A differential pressure gauge comprising:

a housing defining a cavity;

a member dividing the cavity into first and second pressure chambers, at least a portion of the member being movable within the cavity and along an axis;

a magnet operably connected to the member, the magnet generating a magnetic field; and

a hall-effect sensor, the hall effect sensor having a surface, the hall-effect sensor outputting a voltage in response to the magnetic field exerting a force through the surface of the hall-effect sensor, the surface being parallel to the axis.

27. (New) The differential pressure gauge of claim 26 wherein the magnet is positioned within the cavity.

28. (New) The differential pressure gauge of claim 27 wherein the magnet is connected directly to the member.

29. (New) The differential pressure gauge of claim 28 wherein the member is formed with the magnet.

30. (New) The differential pressure gauge of claim 26 wherein the member is slidably positioned within the cavity.

31. (New) The differential pressure gauge of claim 30 wherein the member is a piston, the piston including a sleeve and the magnet is at least partially positioned within the sleeve.

32. (New) The differential pressure gauge of claim 26 wherein the hall-effect sensor is programmable.

33. (New) The differential pressure gauge of claim 26 further comprising:

a filter housing defining a filter chamber;

a filter positioned within the filter chamber, the filter having first and second portions, the first portion being in fluid communication with the first pressure chamber, and the second portion being in fluid communication with the second pressure chamber.

34. (New) A differential pressure gauge comprising:

a housing defining a chamber;

- a member dividing the chamber into first and second pressure chambers, at least a portion of the member being movable within the cavity and along a first axis;
- a magnet operably connected to the member; and
- a hall-effect sensor, the hall-effect sensor responsive to flux from the magnet; and
- a programmable circuit in electrical communication with the hall-effect sensor.
36. (New) The differential pressure gauge of claim 35 wherein the hall-effect sensor and the programmable circuit are located within the housing.
37. (New) The differential pressure gauge wherein the hall-effect sensor and the programmable circuit are combined to form a programmable hall-effect sensor.
38. (New) The differential pressure gauge of claim 34 wherein:
- the magnet generates a magnetic field; and
- the hall effect sensor has a surface and outputs a voltage in response to the magnetic field exerting a force on the hall-effect sensor, the force having a component perpendicular to the surface, the surface being parallel to the axis.
39. (New) The differential pressure gauge of claim 34 wherein the magnet is positioned within the cavity.
40. (New) The differential pressure gauge of claim 39 wherein the magnet is connected directly to the member.
41. (New) The differential pressure gauge of claim 40 wherein the member is formed with the magnet.
42. (New) The differential pressure gauge of claim 34 wherein the member is slidably positioned within the cavity.
43. (New) The differential pressure gauge of claim 42 wherein the member is a piston, the piston including a sleeve and the magnet is at least partially positioned within the sleeve.
44. (New) The differential pressure gauge of claim 34 wherein the hall-effect sensor is programmable.
45. (New) The differential pressure gauge of claim 34 wherein the hall-effect sensor has a discrete output.
46. (New) The differential pressure gauge of claim 34 wherein:

- the hall-effect sensor is programmed to output a first voltage upon a first pressure differential between the first and second pressure chambers; and
- the hall-effect sensor is programmed to output a second voltage upon a second pressure differential between the first and second pressure chambers.
47. (New) The differential pressure gauge of claim 34 further comprising:
- a filter housing defining a filter chamber;
 - a filter positioned within the filter chamber, the filter having first and second portions, the first portion being in fluid communication with the first pressure chamber, and the second portion being in fluid communication with the second pressure chamber.
48. (New) The differential pressure gauge of claim 34 wherein the hall-effect sensor is programmed to output a voltage upon a pressure differential between the first and second pressure chambers.
49. (New) The differential pressure gauge of claim 48 wherein the hall-effect sensor is programmed to output a second voltage upon a second pressure differential between the first and second pressure chambers.
50. (New) The differential pressure gauge of claim 34 wherein the hall-effect sensor has a continuous output.
51. (New) The differential pressure gauge of claim 34 further comprising a circuit electrical communication with the hall-effect sensor, the hall-effect sensor and at least a portion of the circuit being molded into a single unit.
52. (New) The differential pressure gauge of claim 51 wherein the circuit includes a connector, the hall-effect sensor and the circuit being molded into a single unit.
53. (New) A method of manufacturing a differential pressure gauge, the method comprising:
- providing a differential pressure gauge having a magnet arranged to move along an axis as the pressure differential between the first and second pressure chambers changes, a hall-effect sensor, and a programmable circuit in electrical communication with the hall-effect sensor; and
 - programming the programmable circuit so that it outputs a predetermined voltage level when there is a predetermined pressure differential between the first and second pressure chambers.

54. (New) The method of claim 53 wherein providing a differential pressure gauge includes providing a differential pressure gauge in which the hall-effect sensor and the programmable circuit are located in a single housing.

55. (New) The method of claim 54 wherein:

providing a differential pressure gauge includes providing a differential pressure gauge having the hall-effect sensor and programmable circuit combined into a programmable hall-effect sensor; and
programming the programmable circuit includes programming the programmable hall-effect sensor.

56. (New) The method of claim 55 wherein programming the programmable hall-effect sensor further includes :

forming a first differential pressure between the first and second pressure chamber and
programming the hall-effect sensor to output a first voltage level; and
forming a second differential pressure between the first and second pressure chamber and
programming the programmable hall-effect sensor to output a second voltage level.

57. (New) The method of claim 55 wherein programming the programmable hall-effect sensor includes:

forming a differential pressure between the first and second pressure chamber and
programming the programmable hall-effect sensor to output a voltage level.

58. (New) The method of claim 57 wherein programming the programmable hall-effect sensor includes:

forming a second differential pressure between the first and second pressure chamber and
programming the programmable hall-effect sensor to output a second voltage level.